What is claimed is:

1. A knitted wire mesh element, comprising: a combination of an annealed soft wire mesh and a hard wire mesh that does not soften at the elevated temperature of a catalytic converter, the soft wire mesh being present on the outer surface of the element.

2. The element of claim 1, wherein the soft wire is flat.

3. The element of claim 1, wherein the soft wire is at least as heat resistant as type 309 stainless steel.

4. The element of claim 1, wherein the soft wire has an oxide coating on its surface.

5. The element of claim 1, wherein the hard wire is precipitation-hardened.

6. The element of claim 1, wherein the element has a rectilinear geometry, an elliptical geometry, or a combination thereof.

7. The element of claim 6, wherein the ring has a flange at one edge.

8. The element of claim 6, wherein the ring is has multiple mesh layers.

9. A catalytic converter assembly, comprising: a substrate for a catalytic converter disposed in a housing and a wire mesh element disposed on the upstream side of the converter; said wire mesh element comprising a combination of an annealed soft wire mesh and a hard wire mesh that does not soften at the elevated temperature of a catalytic converter, the soft wire mesh being present on the outer surface of the element.

10. The assembly of claim 9, wherein the monolith is elliptical, rectilinear, or a combination thereof in cross-section, and one wire mesh element is disposed at each end thereof.

11. The assembly of claim 9, wherein the soft wire is flat.

12. The assembly of claim 10, wherein the soft wire is flat.

13. The assembly of claim 9, wherein the hard wire is precipitation-hardened stainless steel.

14. The assembly of claim 10, wherein the hard wire is precipitation-hardened stainless steel.

15. The assembly of claim 11, wherein the hard wire is precipitation-hardened stainless steel.

16. A method for making a wire mesh seal element, comprising:

A. providing a first wire, knitting the first wire into a first wire mesh tube, and annealing the first wire mesh tube;

B. providing a second wire, knitting the second wire as a second knitted wire mesh tube;

C. disposing the first wire mesh tube within the second wire mesh tube;

D. rolling up the tube within a tube structure to produce a ring having the mesh of the first wire on the outside; and

E. compressing the ring into a desired geometry.

17. The method of claim 16, further comprising in step A., prior to knitting, the step of flattening the first wire.

18. The method of claim 17, wherein the compressing step is performed in a mold.

19. The method of claim 16, wherein the second wire is provided as precipitation-hardened stainless steel.

20. The method of claim 16, wherein the second wire mesh is knitted as a tube over the first wire mesh tube.

21. The method of claim 16, wherein the tube with a tube structure has opposing ends, and each end is rolled up.

22. The method of claim 16, wherein the rolled up tube within a tube structure is inverted to place the first wire mesh on the outside.

23. A knitted wire mesh element, made by the process of: providing a first knitted mesh tube of a soft wire inside of a second knitted mesh tube of a precipitation-hardened wire; rolling up and inverting the tubes to produce a multilayered ring; and pressing the ring into a desired geometry.